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BLACK BOX®
NETWORK SERVICES

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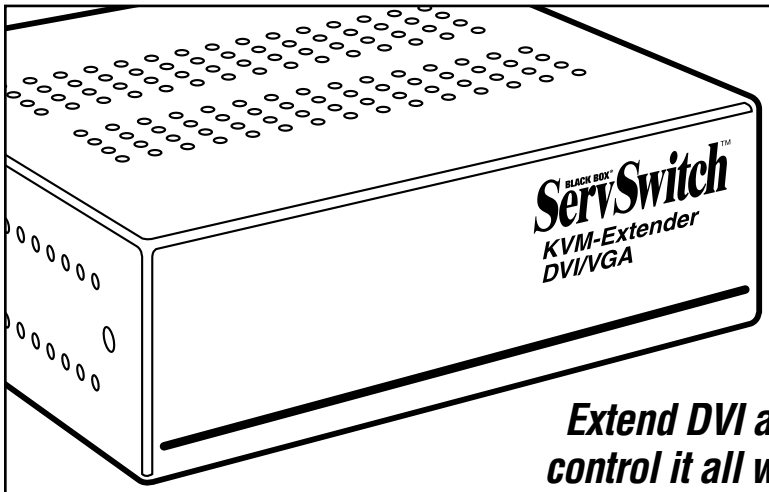
SERVSWITCH DVI/VGA FIBER OPTIC EXTENDERS WITH USB



Extend DVI and VGA video over fiber—and control it all with a USB mouse and keyboard.

Key Features

- ***Combine VGA and DVI video in your KVM extension applications.***
- ***USB style connectors for connecting mice, keyboards, and peripherals.***
- ***Multimode and single-mode versions available.***
- ***Remote unit has a built-in 4-port USB hub.***
- ***Access video equipment locally and remotely.***
- ***Upgradable firmware.***
- ***Include cables and adapters.***

Send both digital DVI and analog VGA signals over fiber optic cabling to a remote site with these easy-to-install keyboard, video, and mouse (KVM) extenders from Black Box.

The ServSwitch™ DVI/VGA Fiber Optic Extenders with USB are ideal for any KVM application that demands flexible video connections and exceptional video quality. Using fiber optic cable not only keeps the video signal immune to electrical interference (which makes it ideal for industrial applications), but it also gives you higher speeds at greater distances. These extenders, in particular, support distances up to 1300 feet (396.2 m) with the multimode version and up to 6.25 miles (10.1 km) with the single-mode version.

Both multimode and single-mode kits include a local unit (transmitter) and remote unit (receiver) that communicate with one another via a fiber interconnection. Connect the local unit to the computer CPU or server directly with the included USB Type A to Type B cable, and attach your KVM console to the remote unit.

Plug as many as four USB peripherals into the remote unit—or even more, if you add a USB hub. Your USB keyboards, mice, joysticks, microphones, speakers, cameras, printers, scanners, and other devices become resources that all of your CPUs can share. To set up a keyboard and mouse console alongside the CPU at the local end, plug a USB hub into the single USB port on the local unit.

Video flexibility.

You can use the extenders with today's top-of-the-line DVI (Digital Visual Interface) video displays, which feature both excellent picture quality and higher transfer bandwidths. What's more, there's no loss of picture quality no matter the distance transmitted. Built-in video processors determine the best resolution and pixel phase for an optimized digitization.

Even though the extenders work best when you use DVI output from your computer's video card and DVI input to a monitor, they're flexible enough to use with just VGA equipment, too.

You can even use a mix of both DVI and VGA devices, because the ServSwitch DVI/VGA Fiber Optic Extenders with USB support all combinations of DVI and VGA graphics cards and monitors. In a mixed analog/digital application, use the Windows program to optimize analog-to-digital conversions.

Easy to fine-tune.

The extender units come with various manual and automatic

video-correction tools that are accessible through the Windows program.

The program's menu for manual operation includes settings for adjusting the temperature, hue, and saturation of colors, and changing the brightness and contrast.

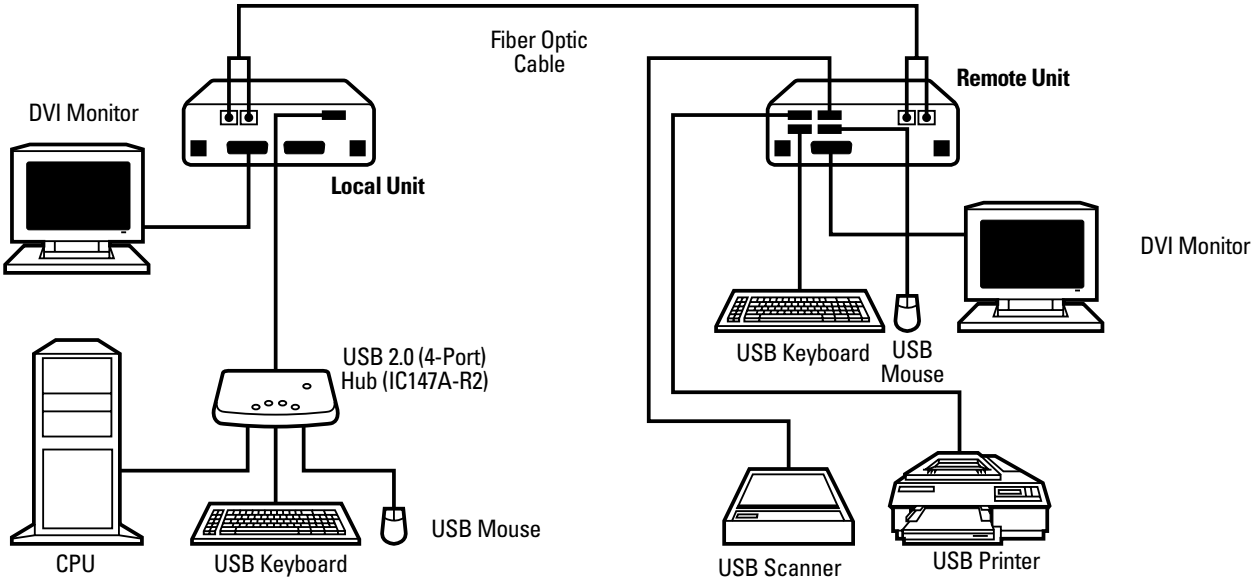
Use the Windows program to specify whether the input is analog or digital and, if you're using analog VGA inputs, select the resolution and refresh rate of the video input at the remote end. You can either keep it the same—that is, have the remote unit generate a screen resolution that matches that of the source—or specify the output display at a fixed screen resolution, regardless of that of the input signal. Use as fixed resolution, for instance, a server farm with many different CPUs that have different screen resolutions.

Upgrade firmware through the programming port, too. Just plug in the included programming cable to transfer updates that you download from the Black Box Web site.

All settings store in EEPROM memory.

For diagnostic purposes, both local and remote units feature LEDs that indicate link status, when the devices are ready, and when the units detect a video signal or valid mode. There's also an LED to inform you of any communication errors.

Application Using USB Hub at Local End



Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p. m. and you need help, but your vendor's tech support line is closed.

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.

Specifications

Video Compatibility: Analog:
VGA to UXGA (separate sync, composite sync, or sync-on-green);
Digital: DVI

Video Resolution (Maximum):
Monitor:
VGA: 1600 x 1200 at 60 Hz;
DVI: 1600 x 1200 at 60 Hz;
Local access: VGA: 1600 x 1200;
DVI: 1280 x 1024

Distances (Maximum):
Interconnection without reboost:
Multimode: 62.5 µ:
650 ft. (198.1 m);
50 µ: 1300 ft. (396.2 m);
Single-mode: 9 µm: 6.25 mi. (10.1 km)

Fiber Optic Beam Divergence:
ACS253A-U-MM: 12º;
ACS253A-U-SM: 4º

Fiber Optic Wavelength:
ACS253A-U-MM: 850 nm;
ACS253A-U-SM: 1300 nm

Fiber Optic Total Output Power:
ACS253A-U-MM:
< 400 µ W (as defined by IEC: 50-mm aperture at 10-cm distance);
< 70 µ W (as defined by FDA: 7-mm aperture at 20-cm distance);
ACS253A-U-SM:
< 2000 µ W (as defined by IEC: 50-mm aperture at 10-cm distance);
< 180 µ W (as defined by FDA: 7-mm aperture at 20-cm distance)

Receiver Typical Sensitivity (Average Power):
ACS253A-U-MM: -20 dBm (-17 dBm maximum);
ACS253A-U-SM: -22 dBm (-20 dBm maximum)

Receiver Optical Budget Total:
ACS253A-U-MM: -14 dBm (-6.5 dBm minimum);
ACS253A-U-SM: -18 dBm (-8 dBm minimum)

Transmitter Typical Launch Power (Average) Into Fiber:
ACS253A-U-MM:
50 µ or 62.5 µ: -5 dBm (-9.5 dBm minimum);
ACS253A-U-SM: 9 µ: -3 dBm (-11 dBm minimum)

Connectors: USB: Local unit:
(1) USB Type A (CPU input);
Remote unit: (4) Type A (output to USB 1.1. compatible devices);
Interconnect: Both units:
(1) pair of SC;
Video: Both local and remote units: (1) DVI-I M (for both DVI and VGA connections)
Programming: Both local and remote units: (1) RJ-11

Indicators: (4) LEDs on both local and remote units:
(1) Communication Error (flashing indicates errors detected);
(1) Link Status (flashing indicates interconnection cable is not connected or not functioning);
(1) Device Ready (on indicates device is ready);
(1) Video Signal (on indicates a video signal or valid mode is detected)

Temperature Tolerance:
Operating: 50 to 113ºF (10 to 45ºC);
Storage: 23 to 131ºF (-5 to +55ºC)

Humidity Tolerance: 80%, noncondensing

Power: 90–240 VAC, 47–63 Hz, autosensing, external

Size: Each local and remote unit:
5.2"H x 6.7"W x 1.7"D
(13.2 x 17 x 4.3 cm)

Weight: Each local and remote unit:
2.2 lb. (1 kg)

Packages Include

- (1) local unit
- (1) remote unit
- (2) universal power supplies ([1] for local unit, [1] for remote unit) and (2) power cords
- (1) DVI-I video cable (DVI-I male-to-female)
- (1) USB Type A to Type B cable
- (1) DB9 male to RJ-11 programming cable
- (2) DVI-I to VGA adapters (DVI-I male to HD15 female)
- (1) VGA to DVI-I adapter (HD15 male to DVI-I female)
- Users' manual

Ordering Information

ITEM	CODE
ServSwitch DVI/VGA Fiber Optic Extenders with USB	
Multimode	ACS253A-U-MM
Single-Mode	ACS253A-U-SM
To rackmount your extenders, order…	
19" Rackmount Kit	RMK253A
You may also need…	
USB 2.0 (4-Port) Hub	IC147A-R2
Ceramic Terminated Multimode Fiber Optic Cable, SC–SC, Duplex, Riser, Custom Lengths	EFN4025
Single-Mode Fiber Optic Cable, Duplex, 9-µm/125-µm, SC–SC, PVC, Custom Lengths	EFN5010
USB Version 1.1 Cables, Type A–Type B	
3-ft. (0.9-m)	USB01-0003
10-ft. (3-m)	USB01-0010